Rural Systemic Initiatives in Science, Mathematics, and Technology Education (RSI)

[Program Solicitation](#)

NSF 01-57

DIVISION OF EDUCATIONAL SYSTEM REFORM

FULL PROPOSAL DEADLINE(S) :

Please note: the program is not accepting proposals until further notice.

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SUMMARY OF PROGRAM REQUIREMENTS

GENERAL INFORMATION

Program Title: Rural Systemic Initiatives in Science, Mathematics, and Technology Education (RSI)

Synopsis of Program: This program supports activities that promote systemic reform and improvement of science and mathematics education in schools and districts in rural, economically disadvantaged areas. Currently, the program seeks to expand participation in reform and encourages submissions from smaller coalitions, typically of five to twenty school districts.

Cognizant Program Officer(s):

- Jody Chase, Program Director, Education and Human Resources, Educational System Reform, 875S, telephone: 703-292-8684, e-mail: jchase@nsf.gov.

- Robert Mena, Program Director, Education and Human Resources, Educational System Reform, 875S, telephone: 703-292-8684, e-mail: rmena@nsf.gov.

Applicable Catalog of Federal Domestic Assistance (CFDA) Number(s):

- 47.076 --- Education and Human Resources

ELIGIBILITY INFORMATION

- **Organization Limit:** Proposals may be submitted only by institutions of higher education, or non-profit or governmental organizations, including school districts, on behalf of consortia of school districts and communities representing the educational interests of their students in eligible regions. Proposing consortia should include representatives from state and local education agencies, elementary and secondary schools, community colleges, business and industry, health and human service agencies, and economic development agencies; and may include private foundations and four-year colleges and universities.

  Eligible school districts are those designated as "rural" or "small town" according to the U.S. Department of Education, National Center for Education Statistics, and in which greater than 30% of the school-age children are living in poverty. Please see http://nces.ed.gov/ccdweb/school/ or http://nces.ed.gov/edfin/search/Search.asp . Proposers are strongly encouraged to confer with an appropriate program director in the Division of Educational System Reform prior to submission.

- **PI Eligibility Limit:** None

- **Limit on Number of Proposals:** An institution may submit only one proposal per competition. Institutions with active Development awards may submit only one Implementation award per competition. Institutions with active Implementation awards may not submit proposals for additional RSIs.

AWARD INFORMATION

- **Anticipated Type of Award:** Cooperative Agreement (Implementation and Phase II) or Standard Grant (Tribal College and Leadership Development)

- **Estimated Number of Awards:** Twelve in FY 2001

- **Anticipated Funding Amount:** Approximately $16 million in FY 2001, pending availability of funds.

PROPOSAL PREPARATION AND SUBMISSION INSTRUCTIONS

A. Proposal Preparation Instructions

- **Full Proposals:** Standard Preparation Guidelines

  - Standard GPG Guidelines apply.

B. Budgetary Information

- **Cost Sharing Requirements:** Cost Sharing is not required.

- **Indirect Cost (F&A) Limitations:** Not Applicable.

- **Other Budgetary Limitations:** Other budgetary limitations apply. Please see the full program announcement/solicitation for further information.

C. Deadline/Target Dates

- **Letters of Intent (*optional*):** None

- **Preliminary Proposals (*optional*):** None

- **Full Proposal Deadline Date(s):**

Please note: the program is not accepting proposals until further notice.

D. FastLane Requirements

- **FastLane Submission:** Full Proposal Required

- **FastLane Contact(s):**

  - Denise Spain, Program Specialist, Education and Human Resources, Educational System Reform, 875S, telephone: 703-292-8684, e-mail: dspain@nsf.gov.

PROPOSAL REVIEW INFORMATION

- **Merit Review Criteria:** National Science Board approved criteria. Additional merit review considerations apply. Please see the full program announcement/solicitation for further information.

AWARD ADMINISTRATION INFORMATION

- **Award Conditions:** Additional award conditions apply. Please see the program announcement/solicitation for further information.

- **Reporting Requirements:** Additional reporting requirements apply. Please see the full program announcement/solicitation for further information.

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Revisions and Updates

Rural Systemic Initiatives in Science, Mathematics, and Technology Education - RSI (NSF 01-57)

Effective November 28, 2001, the following changes were made to this program announcement:

1). **FRONT COVER** – Under the Proposal Deadlines added language:
"Please note: the program is not accepting proposals until further notice."

2). **PROPOSAL PREPARATION AND SUBMISSION INSTRUCTIONS** sections (C & D). Added language:

-Under Full Proposal Deadline Date(s) section C:
"Please note: the program is not accepting proposals until further notice."

-Under FastLane Contact(s) section D:
New contact person: Denise Spain, Program Specialist, Education and Human Resources, Educational System Reform, 875S, telephone: 703-292-8684, e-mail: dspain@nsf.gov

3). The announcement has been updated to reflect current procedures for FastLane submission.

I. INTRODUCTION

The role of science and technology in American society is undergoing dramatic change. In an increasingly technology-oriented society, a basic understanding of science and mathematics is essential to maintain a population prepared to meet the need for a technically competent workforce. Emerging jobs require higher skill levels in science, mathematics, engineering and technology (SMET) than ever before and more effective education and human resources initiatives are needed if the U.S. is to maintain its technological leadership in the world marketplace. NSF is committed to providing strong and continuing leadership and support for the nation's efforts to improve SMET education, as well as general scientific and mathematical awareness and understanding.

The Directorate for Education and Human Resources (EHR) has primary responsibility for NSF's educational activities. The programs supported by EHR span preschool through professional levels. Programs include student-centered activities, curriculum and instructional materials development, informal science education, education research, teacher and faculty enhancement, and comprehensive systemic improvement efforts at the precollege and undergraduate levels. Activities range from programs to improve public science understanding to those designed to enhance the diversity and the preparation of the Nation's scientists, mathematicians, and engineers.

Systemic reform of education is increasingly recognized as an important strategy to provide sustainable improvements in the nation's educational enterprise. Systemic refers to fundamental, comprehensive and coordinated changes made in science, mathematics and technology education through attendant changes in policy, financing, governance, management, content and conduct. Systemic reform occurs when all essential features of schools and school systems are engaged and operating in concert; when policy is aligned with a clear set of goals and standards; when the forthcoming improvements and innovations become an intrinsic part of the ongoing educational system for all children; and when the changes become part of the school system's ongoing operating budget.

NSF past experience shows that successful systemic reform results in the following set of achievements (the Systemic Reform Drivers):

- Implementation of a comprehensive, standards-based curriculum and/or instructional materials aligned with instruction and assessment, available to every student served by the system and its partners.

- Development of a coherent, consistent set of policies that supports provision of: high-quality mathematics and science education for each student; excellent preparation, continuing education, and support for mathematics and science teachers (especially at the elementary level); and support for administrators who have responsibility for implementing science and mathematics education reform.

- Convergence of all resources that are designed for or that reasonably could be used to support science and mathematics education--fiscal, intellectual, and material--both in formal and informal education settings--into a focused program that upgrades and

continually improves the educational program in mathematics and science for all students.

- Broad-based support from parents, policy makers, institutions of higher education, business and industry, foundations, and other segments of the community for the goals and collective value of the initiative.

- Clear evidence that the program is significantly enhancing student achievement and participation in science and mathematics through a set of indices that might include achievement in standard and performance-based tests, portfolio assessments, course enrollments, college admission rates, higher level courses passed, advanced-placement tests taken, perceptions of local employers, and college majors in SMET.

- Significant reductions in the achievement disparities among students that can be attributed to socioeconomic status, race, ethnicity, gender, or learning styles.

II. PROGRAM DESCRIPTION

THE DIVISION OF EDUCATIONAL SYSTEM REFORM

Within EHR, the Division of Educational System Reform (ESR) serves as a focal point for the Directorate's involvement in systemic reform efforts managing large-scale programs for states, urban centers, and rural areas to strengthen science and technology education infrastructure. The programmatic activities of ESR have focused on stimulating states, rural regions, and cities to initiate comprehensive efforts for making lasting improvements in their science, mathematics, and technology education.

This solicitation calls for development and implementation awards under the Foundation's systemic educational reform effort, the Rural Systemic Initiatives (RSI) in Science, Mathematics, and Technology Education. The RSI Program began in 1994, making planning and development awards to representative institutions on behalf of coalitions of educational stakeholders in six rural, impoverished regions. In 1995, the program made four implementation awards to six of these sites. By early 1999, the program had made implementation or development awards to eleven regions. Information about these awards is available by contacting ESR, and on the World Wide Web at http://red.www.nsf.gov. Currently, the program seeks to expand participation in reform beyond large-scale consortia, to encourage submissions from smaller coalitions of, typically, five to twenty school districts.

THE RURAL SYSTEMIC INITIATIVES

National tests in science and mathematics achievement indicate a performance gap across regions of the nation. This gap has been attributed to a variety of factors, but is strongly linked with the level of economic poverty of students and the regions in which they reside. Course-taking patterns are strong predictors of the likelihood that students will enroll and succeed in advanced science and mathematics courses or in programs that lead to scientific or technical degrees. Therefore, the lack of students' access to appropriate science and mathematics courses in school severely limits their educational career choices and their ability to be competitive in the increasingly technical workplace. Data show those students in extreme rural or disadvantaged urban areas receive the least exposure to science and mathematics courses.

Schools are increasingly challenged to provide up-to-date, relevant science and mathematics instruction. Rural schools in areas of high poverty have often been isolated from the mainstream of systemic reform efforts that many states have undertaken. Declining tax bases in economically disadvantaged regions have disproportionately increased the barriers faced by rural and inner city schools to ensure curricular improvements in these vital subjects.

The Rural Systemic Initiatives (RSI) Program addresses the barriers to adequate science, mathematics and technology education in economically disadvantaged regions of the nation. By stimulating systemic reform efforts among the communities, school districts, and classrooms of rural areas, RSI encourages the development of strategies that will result in sustainable, adaptable, and systemic improvements in science, mathematics, and technology education in schools and colleges. While the primary focus of the program is on providing leadership and support for educational reform in a rural region, RSI also hopes to encourage discussions geared toward economic growth for the region that bear on student access to, and achievement in, these subjects. RSI's strategy for accomplishing this is to bring together the education, economic, and community leaders as partners, to allow the development of a comprehensive plan for community development, by the impetus of systemic science, mathematics and technology educational reform.

RSI GOALS

The goals of the RSI program are:

1. The improvement of science, mathematics and technology education in rural, economically disadvantaged regions of the nation, including, but not limited to, access to high quality, standards-based instruction, innovative use of educational technologies for interactive delivery of instruction, and the training of the teaching workforce to meet the demands of a new instructional paradigm;

2. Increased student achievement in the fields of science, mathematics, and technology, as measured by higher scores on standards-based assessments, increasing enrollment in higher level courses, and greater articulation to institutions of higher education;

3. The preparation of a technologically competent workforce, by strengthening the science, mathematics and technology instructional capacities in K-12 schools, through partnerships with two-year and four-year institutions of higher education, particularly as it relates to technician education, lower division instruction of technical curricula, and science and mathematics instruction of the future teaching workforce;

4. The enhancement of scientific understanding and appreciation among students and the general community in rural, economically disadvantaged regions of the nation; and

5. The development of community infrastructure to provide resources to sustain educational improvements, including education policy and economic development, governmental commitment, resource reallocation, and community support and involvement in rural schools and districts.

Successful RSI proposals will develop:

- a sound plan for science, mathematics and technology learning that includes: high-

quality, standards-based curriculum; instruction that engages all students; development of a talented and creative teacher work force; assessment plans that serve children and instruction; articulation strategies, particularly those that encourage the transition from high school to lower division college instruction; provision of appropriate materials and equipment; explicit public accountability strategies and reporting mechanisms; and a nurturing environment.

- a system that allows all students equitable access to high quality science and mathematics instruction. This includes appropriate changes in district/school policies, structure, and decision-making, as well as the need to provide for a secure environment that includes access to health and social services, despite the fact that funds and expertise for these areas must be sought from sources other than NSF.

- collaboration that extends across school systems and between school systems and institutions of higher education, particularly community colleges, resulting in the meaningful alignment of funding, curriculum, instruction, assessment, and teacher preparation and enhancement in science, mathematics and technology instruction.

- partnerships among the schools and such attendant groups as: parents; community organizations; teachers' unions; institutions of higher education, particularly community colleges; museums and other informal science centers; local and state governments; federal agencies; private foundations; business and industry; professional associations; and the media. The focus should be on partnerships that help create, support, and redesign the system.

- linkages with all significant or major mathematics and science technology programs in the region, particularly NSF's Statewide Systemic Initiatives (SSI), the Urban Systemic Initiatives (USI), the Urban Systemic Program (USP), Local Systemic Change Through Teacher Enhancement (LSC), Collaboratives for Excellence in Teacher Preparation (CETP), Centers for Learning and Teaching (CLT), and the Experimental Program to Stimulate Competitive Research (EPSCoR); as well as reforms supported through other federal agencies; through private foundations, business, and industry; and by the states themselves.

- district- or school-based strategies that are grounded in the systemic reform principles as articulated in the Systemic Reform Drivers and must state measurable goals for evaluating the Initiative's success in terms of student achievement.

III. ELIGIBILITY INFORMATION

Proposals may be submitted only by institutions of higher education, or non-profit or governmental organizations, including school districts, on behalf of consortia of school districts and communities representing the educational interests of their students in eligible regions. Proposing consortia should include representatives from state and local education agencies, elementary and secondary schools, community colleges, business and industry, health and human service agencies, and economic development agencies; and may include private foundations and four-year colleges and universities.

Eligible school districts are those designated as "rural" or "small town" according to the U.S. Department of Education, National Center for Education Statistics, and in which greater than 30% of the school-age children are living in poverty. Please see http://nces.ed.gov/ccdweb/school/ or http://nces.ed.gov/edfin/search/Search.asp . Proposers are strongly encouraged to confer with an appropriate program director in the Division of Educational System Reform prior to submission.

IV. AWARD INFORMATION

Development Awards

The complexity of systemic educational reform generally requires discussion and planning, and consensus building is essential for successful implementation of a reform agenda. Development awards will be made to established coalitions that have articulated visions and goals for educational improvement. They will typically support a self-study of the region, the development of base-line data, an in-depth study of proposed activities and their feasibility in this context, articulation of implementation strategies, and determination of financial commitment of the relevant partners. Support under RSI Development awards is available for, but not limited to: staff release time, consultants' fees, travel, computer network time, and related office costs. The size of a given award will be dependent on the nature and scope of the project but will typically range from $100,000 to $200,000. Development awards will typically be of 12 months duration.

Implementation Awards

While the establishment of regional coalitions is a key component, the primary goal of RSI is the successful and sustainable improvement of science, mathematics, and technology education at the kindergarten through high school (K-12) and lower division undergraduate levels in rural, economically disadvantaged, remote, and sparsely populated areas. Proposers must have demonstrated readiness to achieve systemic educational reform through comprehensive planning that has: (1) produced a regional vision for science, mathematics and technology education; (2) resulted in commitment to policy, fiscal, and instructional practice reforms on the part of the participating districts; (3) identified strengths and weaknesses in current programs; (4) secured local, state, and national resources, both public and private, to promote necessary changes; and (5) focused on needed state and local policy changes to expedite reform. Successful proposals should articulate how the proposed work will be grounded in the Systemic Reform Drivers.

Support under RSI Implementation awards is available for but not limited to: identification, adaptation, and implementation of standards-based science and mathematics curriculum; purchase or adaptation of instructional materials in concert with appropriate teacher enhancement activities; teacher in-service and pre-service enhancement activities specifically targeted to the needs of rural teachers and which support the goals of RSI; electronic and telecommunications training and support (within a specified, limited timeframe); leadership activities for teachers and school administrators; development and delivery of workshops that are specifically tailored to the goals of RSI, e.g., increasing parental and community involvement in science and mathematics education; regional meetings of the consortia and potential partners; project staff salaries; travel; clerical services; consultants; and technical assistance. Funds should be included for the principal investigator(s) (PI) and project director (PD) (no more than 4 people) to attend an annual meeting and a semi-annual technical assistance meeting, and a one-

day annual performance review in Washington, DC. RSI will not support curriculum or instructional materials development; purchase of instructional materials to supplant school resources; purchase of general purpose office equipment; purchase of permanent scientific equipment or instrumentation; or purchase of telecommunications or computer equipment, except as deemed essential by the program officer for effective management and deployment of the activities.

Implementation proposals will be accepted only from consortia that have received Development Awards. Implementation awards are expected to be funded at a level of $500,000-$1.5 million per year, depending upon the size of the consortium, not to exceed $6 million in 5 years. Funding for each year subsequent to Year 1 will be contingent upon achievement of a series of benchmarks mutually agreed upon by the proposers and the Foundation, and specified in a cooperative agreement.

Phase II (Available to RSI awardees that have successfully completed five years of RSI Implementation support)

RSIs have developed creative strategies for accomplishing their goals, and many have shown substantial results in terms of student accomplishment and achievement and serve to constitute a momentum for educational reform in the region. Having achieved the momentum for reform, projects report a need to have an enhanced opportunity to capitalize on their accomplishments, and to extend the scope of their reform work. Therefore, it is the decision of NSF to facilitate the work by offering limited additional support to those regions that can provide evidence of significant accomplishment to date and an innovative plan for pushing their accomplishments further. These regions are expected to have been actively involved with a full-scale RSI. The additional funding is designated RSI Phase II funding, to distinguish the higher expectations NSF holds for these mature projects from those for new projects.

NSF will accept proposals from RSIs that are in the fifth year of implementation funding, on behalf of the participating schools or districts of the original consortium, at up to $1.5 million per year, not to exceed $6 million in 5 years.

It is expected that the second phase of any systemic initiative design will build upon the successes and lessons of the first phase, but should expand its scope and stretch its goals. Therefore, successful proposals will take the initiative beyond that which was envisioned and proposed for the first five years. Moreover, successful proposals are expected to document student achievement gains attributable to the reform strategy, among their other justifications for further funding.

Tribal Colleges and Universities Component

In response to Presidential Executive Order 13021, "White House Initiative for Tribal Colleges and Universities," the NSF will consider individual proposals from Tribal Colleges and Universities (TCUs) to promote systemic reform in K-12 schools within their service areas. TCUs participating in the current Tribal College Rural Systemic Initiative may independently apply for funding to continue Phase II activities as previously described. In some limited cases, colleges may consider directing a portion of the initial Phase II effort toward reinforcing partnerships, strengthening school participation and promoting community development

activities. Colleges are encouraged to discuss their plans with an appropriate ESR program director prior to finalizing their proposals.

TCU Implementation awards are expected to be funded at a level of $100,000 to $250,000 per year, depending upon the scope of the proposed activities, for up to 5 years; funding for each year subsequent to Year 1 will be contingent upon achievement of a series of benchmarks mutually agreed upon by the proposers and the Foundation, and specified in a cooperative agreement or grant.

TCUs currently not engaged in the RSI program are eligible to apply independently for Developmental Awards to conduct self-studies and establish coalitions to promote systemic reform strategies for mathematics, science, and technology education in K-12 schools in their service areas. In instances where a RSI project is already established for the service area, coordination of efforts to prevent duplication will be a consideration for any new RSI effort. Colleges are encouraged to confer with the appropriate RSI program director prior to proposal development. Typically, TCU Developmental Awards will be funded at $100,000 for 12 months.

Leadership Development (Available to active RSI awards or their consortium members)

In recognition of the need to increase and sustain the capacity for reform in RSI-eligible districts, the RSI program will also accept proposals for model projects that provide leadership development training and opportunities for master teachers in science, mathematics or technology. Leadership Development for Master Teachers is open only to active RSI Implementation awardees, or institutions affiliated with an RSI Implementation award with the concurrence of the RSI PI. The master teachers selected must be actively involved in the RSI-sponsored reform. Proposals will also be considered from coalitions of RSI Implementation projects.

Teachers selected for Leadership Development of Master Teachers must be highly qualified individuals, currently employed in a teaching capacity in RSI schools, who demonstrate: significant understanding of science, mathematics, or technology instruction, including content and pedagogy; exemplary instructional practices in their classrooms; an ability to work with other teachers to improve instructional practice; an ability to work with school or district leadership, parents and community groups to foster systemic reform; an ability to conduct workshops and activities for a variety of audiences on topics crucial to educational reform and improvement.

Those teachers selected for the Leadership Development of Master Teachers projects must be given release time from their teaching responsibilties for the length of their tenure with the project. Their time should be spent in improving their own leadership skills and in leading others to improve overall instructional strategies. Typical activities could include helping to improve curricula, hands-on lessons and instruction, and leading professional training. In addition, Master Teachers should serve as spokespersons for the role of high-quality mathematics and science instruction, by serving on school and district planning committees, and conducting outreach to community and parent groups and organizations. Moreover, Master Teachers should be in a role to provide assistance, guidance, and collaboration with the relevant RSI project, and should be included in all teacher- or administration-focused activities conducted by the relevant RSI project. The activities conducted and the role played by the Master Teachers should facilitate

building capacity and sustaining the RSI reform.

The Leadership Development for Master Teachers awards are expected to be funded at a level of $250,000 per year for up to 3 years, to support three to five teachers, appropriate training modules and opportunities, costs of release time, and associated travel. Funding for each year subsequent to Year 1 will be contingent upon achievement of a series of benchmarks mutually agreed upon by the proposers and the Foundation, and specified in the grant. The RSI program anticipates making up to 5 of these awards in FY 2001.

V. PROPOSAL PREPARATION AND SUBMISSION INSTRUCTIONS

A. Proposal Preparation Instructions

Full Proposal:

Proposals submitted in response to this program announcement/solicitation should be prepared and submitted in accordance with the general guidelines contained in the NSF *Grant Proposal Guide* (GPG). The complete text of the GPG is available electronically on the NSF Web Site at: http://www.nsf.gov/cgi-bin/getpub?nsf012. Paper copies of the GPG may be obtained from the NSF Publications Clearinghouse, telephone (301) 947-2722 or by e-mail from pubs@nsf.gov.

Proposers are reminded to identify the program solicitation number (NSF 01-57) in the program announcement/solicitation block on the NSF Form 1207, *Cover Sheet For Proposal to the National Science Foundation*. Compliance with this requirement is critical to determining the relevant proposal processing guidelines. Failure to submit this information may delay processing.

B. Budgetary Information

Cost sharing is not required in proposals submitted under this Program Solicitation.

Other Budgetary Limitations: Funds should be included for the principal investigator(s) (PI) and project director (PD) (no more than 4 people) to attend an annual meeting and a semi-annual technical assistance meeting, and a one-day annual performance review in Washington, DC. RSI will not support curriculum or instructional materials development; purchase of instructional materials to supplant school resources; purchase of general purpose office equipment; purchase of permanent scientific equipment or instrumentation; or purchase of telecommunications or computer equipment, except as deemed essential by the program officer for effective management and deployment of the activities.

C. Deadline/Target Dates

Proposals must be submitted by the following date(s):

Full Proposals *by 5:00 PM local time*:

Please note: the program is not accepting proposals until further notice.

D. FastLane Requirements

Proposers are required to prepare and submit all proposals for this Program Solicitation through the FastLane system. Detailed instructions for proposal preparation and submission via FastLane are available at: http://www.fastlane.nsf.gov/a1/newstan.htm. For FastLane user support, call 1-800-673-6188.

Submission of Signed Cover Sheets. The signed copy of the proposal Cover Sheet (NSF Form 1207) must be postmarked (or contain a legible proof of mailing date assigned by the carrier) within five working days following proposal submission and be forwarded to the following address:

National Science Foundation
DIS – FastLane Cover Sheet
4201 Wilson Blvd.
Arlington, VA 22230

VI. PROPOSAL REVIEW INFORMATION

A. NSF Proposal Review Process

Reviews of proposals submitted to NSF are solicited from peers with expertise in the substantive area of the proposed research or education project. These reviewers are selected by Program Officers charged with the oversight of the review process. NSF invites the proposer to suggest at the time of submission, the names of appropriate or inappropriate reviewers. Care is taken to ensure that reviewers have no conflicts with the proposer. Special efforts are made to recruit reviewers from non-academic institutions, minority-serving institutions, or adjacent disciplines to that principally addressed in the proposal.

Proposals will be reviewed against the following general review criteria established by the National Science Board. Following each criterion are potential considerations that the reviewer may employ in the evaluation. These are suggestions and not all will apply to any given proposal. Each reviewer will be asked to address only those that are relevant to the proposal and for which he/she is qualified to make judgements.

What is the intellectual merit of the proposed activity?
How important is the proposed activity to advancing knowledge and understanding within its own field or across different fields? How well qualified is the proposer (individual or team) to conduct the project? (If appropriate, the reviewer will comment on the quality of the prior work.) To what extent does the proposed activity suggest and explore creative and original concepts? How well conceived and organized is the proposed activity? Is there sufficient access to resources?

What are the broader impacts of the proposed activity?
How well does the activity advance discovery and understanding while promoting teaching, training, and learning? How well does the proposed activity broaden the participation of underrepresented groups (e.g., gender, ethnicity, disability, geographic, etc.)? To what extent will it enhance the infrastructure for research and education, such as facilities, instrumentation, networks, and partnerships? Will the results be disseminated broadly to enhance scientific and technological understanding? What may be the benefits of the proposed activity to society?

Principal Investigators should address the following elements in their proposal to provide reviewers with the information necessary to respond fully to both of the above-described NSF merit review criteria. NSF staff will give these elements careful consideration in making funding decisions.

Integration of Research and Education
One of the principal strategies in support of NSF's goals is to foster integration of research and education through the programs, projects, and activities it supports at academic and research institutions. These institutions provide abundant opportunities where individuals may concurrently assume responsibilities as researchers, educators, and students and where all can engage in joint efforts that infuse education with the excitement of discovery and enrich research through the diversity of learning perspectives.

Integrating Diversity into NSF Programs, Projects, and Activities
Broadening opportunities and enabling the participation of all citizens -- women and men, underrepresented minorities, and persons with disabilities -- is essential to the health and vitality of science and engineering. NSF is committed to this principle of diversity and deems it central to the programs, projects, and activities it considers and supports.

Additional Review Criteria
Reviewers of RSI proposals will be asked to consider the extent to which the following have been addressed.

Development and Implementation Awards

- demonstration of a consortium framework and program-driven goals for science and mathematics education improvement

- shared leadership among consortium partners

- potential impact on the target population

Implementation Awards

- demonstration that the proposal is built on self-assessment

- roles and levels of commitment of each stakeholder/segment involved in process

- challenging and attainable goals for student achievement

- community knowledge base and views

- economic development

- curriculum frameworks applicable to state and/or local levels

- leadership capacity in targeted districts

- pre- and inservice professional development

- alignment with regional, state, national education goals

- extent to which the proposers identify, address, and plan to modify potential or actual impediments to systemic reform, including: structure and governance of local educational agencies; administrative practices; resource allocation; and parental/community involvement

- fiscal responsibility aimed at local levels,

- evaluation that includes methods of assessing improvements in instruction and performance, and

- plans for sustaining improvements beyond award duration.

A summary rating and accompanying narrative will be completed and signed by each reviewer. In all cases, reviews are treated as confidential documents. Verbatim copies of reviews, excluding the names of the reviewers, are sent to the Principal Investigator/Project Director by the Program Director. In addition, the proposer will receive an explanation of the decision to award or decline funding.

B. Review Protocol and Associated Customer Service Standard

All proposals are carefully reviewed by at least three other persons outside NSF who are experts in the particular field represented by the proposal. Proposals submitted in response to this announcement/solicitation will be reviewed by Mail Review followed by Panel Review. RSI proposals will be reviewed by experts selected from the science, mathematics, engineering and technology research and education communities. The review process may include site visits by NSF staff and selected reviewers, or other methods of gathering additional information deemed desirable for award determination. Special efforts will be made to secure reviews from individuals with strong records of achievement in the educational or scientific disciplines impacted by the proposal. Final award recommendations will be made by program staff and will reflect both reviewer comments and program priorities.

Reviewers will be asked to formulate a recommendation to either support or decline each proposal. The Program Officer assigned to manage the proposal's review will consider the advice of reviewers and will formulate a recommendation.

NSF will be able to tell applicants whether their proposals have been declined or recommended for funding within six months for 95 percent of proposals. The time interval begins on the proposal deadline or target date or from the date of receipt, if deadlines or target dates are not used by the program. The interval ends when the Division Director accepts the Program Officer's recommendation.

In all cases, after programmatic approval has been obtained, the proposals recommended for funding will be forwarded to the Division of Grants and Agreements for review of business, financial, and policy implications and the processing and issuance of a grant or other agreement. Proposers are cautioned that only a Grants and Agreements Officer may make commitments, obligations or awards on behalf of NSF or authorize the expenditure of funds. No commitment on the part of NSF should be inferred from technical or budgetary discussions with a NSF Program Officer. A Principal Investigator or organization that makes financial or personnel commitments in the absence of a grant or cooperative agreement signed by the NSF Grants and Agreements Officer does so at its own risk.

VII. AWARD ADMINISTRATION INFORMATION

A. Notification of the Award

Notification of the award is made to *the submitting organization* by a Grants Officer in the Division of Grants and Agreements. Organizations whose proposals are declined will be advised as promptly as possible by the cognizant NSF Program Division administering the program. Verbatim copies of reviews, not including the identity of the reviewer, will be provided automatically to the Principal Investigator. (See section VI.A. for additional information on the review process.)

B. Award Conditions

An NSF award consists of: (1) the award letter, which includes any special provisions applicable to the award and any numbered amendments thereto; (2) the budget, which indicates the amounts, by categories of expense, on which NSF has based its support (or otherwise communicates any specific approvals or disapprovals of proposed expenditures); (3) the proposal referenced in the award letter; (4) the applicable award conditions, such as Grant General Conditions (NSF-GC-1)* or Federal Demonstration Partnership (FDP) Terms and Conditions * and (5) any announcement or other NSF issuance that may be incorporated by reference in the award letter. Cooperative agreement awards also are administered in accordance with NSF Cooperative Agreement Terms and Conditions (CA-1). Electronic mail notification is the preferred way to transmit NSF awards to organizations that have electronic mail capabilities and have requested such notification from the Division of Grants and Agreements.

*These documents may be accessed electronically on NSF's Web site at http://www.nsf.gov/home/grants/grants_gac.htm. Paper copies may be obtained from the NSF Publications Clearinghouse, telephone (301) 947-2722 or by e-mail from pubs@nsf.gov.

More comprehensive information on NSF Award Conditions is contained in the NSF *Grant Policy Manual* (GPM) Chapter II, available electronically on the NSF Web site at http://www.nsf.gov/cgi-bin/getpub?gpm. The GPM is also for sale through the Superintendent of Documents, Government Printing Office (GPO), Washington, DC 20402. The telephone number at GPO for subscription information is (202) 512-1800. The GPM may be ordered through the GPO Web site at http://www.gpo.gov.

Special Award Conditions
Based on reviewers' and program staff recommendations, additional award conditions may be negotiated before a final award is made.

C. Reporting Requirements

For all multi-year grants (including both standard and continuing grants), the PI must submit an annual project report to the cognizant Program Officer at least 90 days before the end of the current budget period.

The due date for the annual reports will be negotiated with the awardee.

In addition to the annual and final reports required of NSF awardees, RSI Implementation, Phase II, and TCU Implementation projects will be required to submit requested information into the Core Data Elements database on an annual basis. The projects will also be expected to participate in site visits and reverse site visits as requested by the RSI program staff, and to participate in a Mid-Point Review during the third year of the award.

Within 90 days after the expiration of an award, the PI also is required to submit a final project report. Approximately 30 days before expiration, NSF will send a notice to remind the PI of the requirement to file the final project report. Failure to provide final technical reports delays NSF review and processing of pending proposals for that PI. PIs should examine the formats of the required reports in advance to assure availability of required data.

NSF has implemented an electronic project reporting system, available through FastLane. This system permits electronic submission and updating of project reports, including information on project participants (individual and organizational), activities and findings, publications, and other specific products and contributions. PIs will not be required to re-enter information previously provided, either with a proposal or in earlier updates using the electronic system.

VIII. CONTACTS FOR ADDITIONAL INFORMATION

General inquiries regarding Rural Systemic Initiatives in Science, Mathematics, and Technology Education should be made to:

- Jody Chase, Program Director, Education and Human Resources, Educational System Reform, 875S, telephone: 703-292-8684, e-mail: jchase@nsf.gov.

- Robert Mena, Program Director, Education and Human Resources, Educational System Reform, 875S, telephone: 703-292-8684, e-mail: rmena@nsf.gov.

For questions related to the use of FastLane, contact:

- Denise Spain, Program Specialist, Education and Human Resources, Educational System Reform, 875S, telephone: 703-292-8684, e-mail: dspain@nsf.gov.

IX. OTHER PROGRAMS OF INTEREST

The NSF *Guide to Programs* is a compilation of funding for research and education in science, mathematics, and engineering. The NSF *Guide to Programs* is available electronically at

http://www.nsf.gov/cgi-bin/getpub?gp. General descriptions of NSF programs, research areas, and eligibility information for proposal submission are provided in each chapter.

Many NSF programs offer announcements or solicitations concerning specific proposal requirements. To obtain additional information about these requirements, contact the appropriate NSF program offices. Any changes in NSF's fiscal year programs occurring after press time for the *Guide to Programs* will be announced in the NSF E-Bulletin, which is updated daily on the NSF web site at http://www.nsf.gov/home/ebulletin, and in individual program announcements/solicitations. Subscribers can also sign up for NSF's Custom News Service (http://www.nsf.gov/home/cns/start.htm) to be notified of new funding opportunities that become available.

ABOUT THE NATIONAL SCIENCE FOUNDATION

The National Science Foundation (NSF) funds research and education in most fields of science and engineering. Awardees are wholly responsible for conducting their project activities and preparing the results for publication. Thus, the Foundation does not assume responsibility for such findings or their interpretation.

NSF welcomes proposals from all qualified scientists, engineers and educators. The Foundation strongly encourages women, minorities and persons with disabilities to compete fully in its programs. In accordance with Federal statutes, regulations and NSF policies, no person on grounds of race, color, age, sex, national origin or disability shall be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving financial assistance from NSF (unless otherwise specified in the eligibility requirements for a particular program).

Facilitation Awards for Scientists and Engineers with Disabilities (FASED) provide funding for special assistance or equipment to enable persons with disabilities (investigators and other staff, including student research assistants) to work on NSF-supported projects. See the program announcement/solicitation for further information.

The National Science Foundation has Telephonic Device for the Deaf (TDD) and Federal Information Relay Service (FIRS) capabilities that enable individuals with hearing impairments to communicate with the Foundation about NSF programs, employment or general information. TDD may be accessed at (703) 292-5090, FIRS at 1-800-877-8339.

The National Science Foundation is committed to making all of the information we publish easy to understand. If you have a suggestion about how to improve the clarity of this document or other NSF-published materials, please contact us at plainlanguage@nsf.gov.

PRIVACY ACT AND PUBLIC BURDEN STATEMENTS

The information requested on proposal forms and project reports is solicited under the authority of the National Science Foundation Act of 1950, as amended. The information on proposal forms will be used in connection with the selection of qualified proposals; project reports submitted by awardees will be used for program evaluation and reporting within the Executive Branch and to Congress. The information requested may be disclosed to qualified reviewers and staff assistants as part of the proposal review process; to applicant institutions/grantees to provide or obtain data

regarding the proposal review process, award decisions, or the administration of awards; to government contractors, experts, volunteers and researchers and educators as necessary to complete assigned work; to other government agencies needing information as part of the review process or in order to coordinate programs; and to another Federal agency, court or party in a court or Federal administrative proceeding if the government is a party. Information about Principal Investigators may be added to the Reviewer file and used to select potential candidates to serve as peer reviewers or advisory committee members. See Systems of Records, NSF-50, "Principal Investigator/Proposal File and Associated Records," 63 Federal Register 267 (January 5, 1998), and NSF-51, "Reviewer/Proposal File and Associated Records," 63 Federal Register 268 (January 5, 1998). Submission of the information is voluntary. Failure to provide full and complete information, however, may reduce the possibility of receiving an award.

Pursuant to 5 CFR 1320.5(b), an agency may not conduct or sponsor, and a person is not required to respond to an information collection unless it displays a valid OMB control number. The OMB control number for this collection is 3145-0058. Public reporting burden for this collection of information is estimated to average 120 hours per response, including the time for reviewing instructions. Send comments regarding this burden estimate and any other aspect of this collection of information, including suggestions for reducing this burden, to: Suzanne Plimpton, Reports Clearance Officer, Information Dissemination Branch, Division of Administrative Services, National Science Foundation, Arlington, VA 22230, or to Office of Information and Regulatory Affairs of OMB, Attention: Desk Officer for National Science Foundation (3145-0058), 725 17th Street, N.W. Room 10235, Washington, D.C. 20503.

OMB control number: 3145-0058.